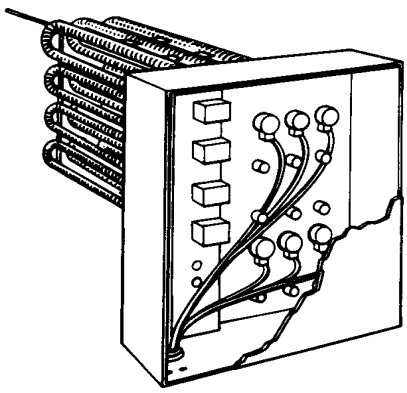
ACCESSORY KIT INSTALLATION INSTRUCTIONS

ELECTRIC HEAT ACCESSORY MODELS 2HE04500925 THROUGH 05458 AND 2HH04503625 & 05425



FOR SINGLE PACKAGE AIR CONDITIONERS MODELS D1CE/DAHB 090, 102, 120 & 150 FOR SINGLE PACKAGE HEAT PUMPS MODELS B1CH & BACB 090 & 120

General

This instruction contains all the necessary information for field assembling these 2HE and 2HH series electric heaters in the single package air conditioners and heat pumps listed above.

Terminal locks, electrical connectors, wiring, and all hardware are supplied with these accessories.

The data in Table 1 shows the heater KW/minimum CFM limitations. Table 2 lists the heater combinations applicable to the appropriate size air conditioner while the data in Table 3 lists the heater combinations applicable to the appropriate heat pump. Tables 2 and 3 also contain important electrical characteristics and limitations.

Units and ductwork are approved for zero clearance to combustible materials when equipped with these electric heaters.

Depending upon the voltage and the heater KW rating, some heater accessories require a fuse block and some do not. Fuse blocks, including the required fuses, are supplied in the appropriate heater control box.

NOTE: *These heater accessories may be installed before or after the unit has been set on a curb or slab*.

Table 1: Minimum CFM Limitations

Heater Size, KW			Minimum CFM Unit Size, MBH					
			090		102	120		150
208/230V	460V	575V	CLG*	HP†	CLG*.	CLG*.	HP‡	CLG*.
6.8/9.0	9.0.	9.0	2250	2250	2250	--	--	-
13.5/18.0	18.0	18.0	2250	2250	2250	3000	3000	3750
27.0/36.0	36.0	360	2250	2750	2250	3000	3000	3750
40.5/54.0‡	54.0‡.	54.0‡.	--	--	--	3000	3500	3750

*. Model DCE and DHB only.
†. Models BCH and BCB only.
‡. On 10 ton heat pump units (Models BCH and BCB120) being equipped with a 54 KW heater, only 36 KW of electric heat can be simultaneously energized with mechanical heating.

Installation

Install the electric heater accessories as follows:

1. Disconnect all electrical power to the unit.

2. Remove the following panels from the basic unit:

   - Heating access panel
   - Blower access panel
   - Main control box access panel.

NOTE: Motor leads are held in place above the blower by plastic ties. Do not disturb these ties.

3. Remove and discard the cover plate attached to the plenum within the unit heating section.

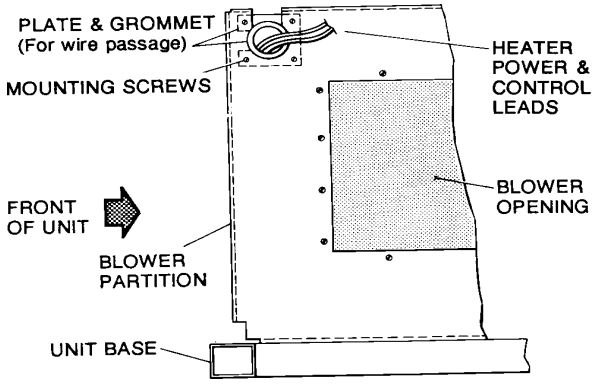
4. Remove the knockout in the main unit control box. (on the right side of control box)

5. Insert the heater coils through the opening in the heating section plenum, and at the same time, insert the heater support pin (on coil end of heater) into the left hand hole in the heater support located inside of the plenum. (The 54 Kw heater only, utilizes both support holes) Open the heater control box cover and secure box to the plenum with the six (6) hex head screws provided.

CAUTION: *Exercise care when inserting the heater into the plenum opening to avoid damage or mis-alignment of the heater coils. The heater control box must fit flush against the plenum without force and with the control box mounting holes properly aligned.*

6. Insert the loose power leads from the heater harness through the grommeted hole in the top of the blower partition. Refer to Figure 1. Existing wires through this opening should not be disturbed, however, some heaters require more wires than others, necessitating the use of a larger opening. A special patch plate and a larger grommet are supplied with the appropriate heater accessory. On an accessory that contains a patch plate, replace per the following:

FIGURE 1 - Blower Partition



Remove the 4 screws that secure the plate to the partition, discard the current plate and grommet and replace with the new plate and larger grommet. Reuse the same 4 screws for mounting.

The patch plate is designed to slip over existing wiring, eliminating the need to disconnect any leads. Cut the grommet to allow assembling over existing wiring.

WARNING: *Be sure the rubber grommet is properly installed in the patch plate opening to avoid the possibility of an insulated conductor coming in contact with a metal edge. Failure to do so could cause personal injury and/or equipment damage.*

7. Disconnect the field power wiring leads from the terminals on the 1M contactor. Mount the 1TB terminal block provided to the holes below the 1M contactor using the two (2) Phillips head screws.

8. Connect the field power leads that were disconnected in Step 7 to the appropriate terminals on the bottom of the 1TB terminal block. Take the three (3) leads supplied in the accessory and connect them between the appropriate terminals on 1M contactor and the top terminals of 1TB terminal block.

   Slip the connector nut over the power leads from the heater and insert the leads into the control box through the knockout hole removed in Step 4.

   From inside the main control box, slip the electrical connector onto the heater power leads. Tighten the connector nut but do not tighten the screws on the connector clamp until later. Connect the heater power leads to the appropriate terminals on top of the 1TB terminal block.

   Refer to the wiring label inside the heater control box cover for proper connection of all power leads.

NOTE: *Wrap leads with a minimum of 3 layers of tape where they come into contact with the connector. DO NOT tighten connector clamp screws until power leads are connected and in place.*

9. Connect the MATE-N-LOCK plug on the control wiring harness from the heater control box into the MATE-N-LOCK socket located near the top of the blower partition in the heating section.

NOTE: *Flat surfaces on the pins of the MATE-N-LCOK plug must align with the flat surfaces on the socket, otherwise electrical connection cannot be completed. To remove this plug once connection has been made, squeeze sides of the plug together and pull out.*

10. For <u>10 ton heat pump</u> units that will be using 2HH04503625 and 2HH04505425 electric heaters, a fuse box supplied with these heaters only must be installed at location shown in Figure 2 per the following procedure:

    a. Remove the knockout from the side of the main control box. This will be aligned with the knockout in the fuse box when installed.

    b. Place the fuse box in the blower chamber between the control box post and the blower

post. Secure to these posts with 2 screws on each side of the box.

c. Open the fuse box cover, take the six wires that are attached to the fuse block inside of the fuse box, place the smaller snap bushing over these wires and pass them through the knockout hole in the side of the fuse box. Pass the six wires through the knockout hole in the main control box. Insert the snap bushing into the knockout hole in the fuse box to secure the wires.

d. Place the larger snap bushing over the six wires from the fuse box and insert the snap bushing into the knockout hole in the side of the main control box to secure the wires.

e. Connect 3 wires to the terminal block 1 TB and 3 wires to contactor 1M. Refer to the wiring diagram inside of the heater control box for the proper connections.

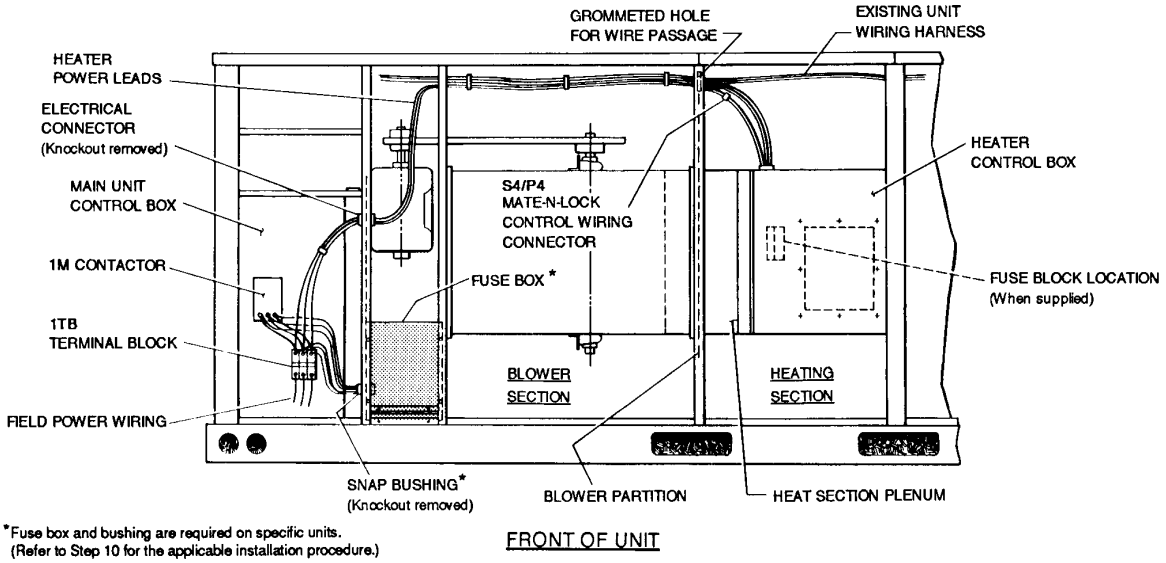
f. Close the fuse box cover.

g. Take the new unit wiring diagrams supplied with the heater accessory and place them over the existing unit wiring diagrams inside of the main control box cover.

11. Adjust power leads for the proper slack. Attach the power leads to the existing harness at the top of the blower section and cable the leads inside the main control box using the wires ties supplied with the accessory. Tighten the screws on the connector clamp in the main control box to secure the power leads in position.

12. Close cover on the heater control box and reinstall the unit panels that are removed in Step 2.

13. Reconnect power to the unit.



*Fuse box and bushing are required on specific units. (Refer to Step 10 for the applicable installation procedure.)

Unit Size D1CE/ DAHB	Power Supply	Heater Accessory Model Number	Supply Air Blower FLA MOTOR HP LO	Supply Air Blower FLA MOTOR HP HI	Electric Heaters KW	Electric Heaters Stages	Electric Heaters Total AMPS	Total Unit Ampacity AMPS Motor HP LO	Total Unit Ampacity AMPS Motor HP HI	Max Fuse Size* Amps	Minimum Wire Size † AWG Motor HP LO	Minimum Wire Size † AWG Motor HP HI
7-1-1/2 TON UNIT with 1-1/2 or 2 HP Blower												
090	208-3-60	2HE04500925 2HE04501825 2HE04503625	5.7	7.5	6.8 13.5 27.0	1 2 2	18.7 37.5 75.1	44.7 54.0 100.9	46.5 56.3 103.2	60‡ 60‡. 110	6 6 2	6 4 2
	230-3-60	2HE04500925 2HE04501825 2HE04503625	5.7	7.5	9.0 18.0 36.0	1 2 2	21.6 43.3 86.6	44.7 61.3 115.4	46.5 63.5 117.6	60‡. 70 125	6 4 1	6 4 1
	460-3-60	2HE04500946** 2HE04501846**. 2HE04503646	2.6	3.4	9.0 18.0 36.0	1 2 2	10.8 21.6 43.3	22.5 30.3 57.3	23.3 31.3 58.3	30 35 60	10 8 4	10 8 4
	575-3-60	2HE04500958 2HE04501858 2HE04503658	2.1	2.7	9.0 18.0 36.0	1 2 2	8.7 17.3 34.6	16.2 24.3 45.9	1638 25.0 46.6	20 25 50	12 10 6	12 10 6
8-1/2 Ton Unit with 2 HP Blower												
102	208-3-60	2HE04500925 2HE04501825 2HE04503625	--	7.5	6.8 13.5 27.0	1 2 2	18.7 37.5 75.1	- - -	47.5 56.3 103.2	60‡. 60‡. 110	-- -- --	6 4 2
	230-3-60	2HE04500925 2HE04501825 2HE04503625	--	7.5	9.0 18.0 36.0	1 2 2	21.6 43.3 86.6	- - -	47.5 63.5 117.6	60‡. 70 125	-- -- --	6 4 1
	460-3-60	2HE04500946**. 2HE04501846**. 2HE04503646	--	3.4	9.0 18.0 36.0	1 2 2	10.8 21.6 43.3	- - -	25.1 31.3 58.3	30 35 60	-- -- --	10 8 4
	575-3-60	2HE04500958 2HE04501858 2HE04503658	--	2.7	9.0 18.0 36.0	1 2 2	8.8 17.3 34.6	- - -	20.0 25.0 46.6	25 25 50	-- -- --	10 10 6
10 Ton Unit with 2 or 3 HP Blower												
120	208-3-60	2HE04500825 2HE04503625 2HE04505425	7.5	10.6	13.5 27.0 40.6	2 2 2	37.5 75.1 112.6	56.3 103.1 121.9	60.2 107.0 125.8	70 110 150	4 2 1	4 2 1
	230-3-60	2HE04501825 2HE04503625 2HE04505425	7.5	10.6	18.0 36.0 54.0	2 2 2	43.3 86.6 129.9	63.5 117.6 139.3	67.4 121.5 143.1	70 125 150	4 1 0	4 1 0
	460-3-60	2HE04501846**. 2HE04503646 2HE04505446	3.4	4.8	18.0 36.0 54.0	2 2 2	21.6 43.3 65.0	31.3 58.4 69.2	33.0 60.0 70.8	35 60 70/80	8 4 4	8 4 3
	575-3-60	2HE04501858 2HE04503658 2HE04505458	2.7	3.9	18.0 36.0 54.0	2 2 2	17.3 34.6 51.9	25.0 46.6 55.3	26.5 48.1 56.8	30 50 60	10 6 4	10 6 4
12-1/2 Ton Unit with 3 or 5 HP Blower												
150	208-3-60	2HE04501825 2HE04503625 2HE04505425	10.6	15.1	13.5 27.0 40.6	2 2 2	37.5 75.1 112.6	70.1 107.0 125.8	76.2 114.6 133.4	90/100 110/125 150	4 2 1	3 2 0
	230-3-60	2HE04501825 2HE04503625 2HE04505425	10.6	15.1	18.0 36.0 54.0	2 2 2	43.3 86.6 129.9	70.1 121.5 143.1	76.2 127.3 148.9	90/100 125/150 150	4 1 0	3 1 0
	460-3-60	2HE04501846**. 2HE04503646 2HE04505446	4.8	7.5	18.0 36.0 54.0	2 2 2	21.6 43.3 65.0	35.4 60.0 70.8	38.1 63.5 74.3	40/50 60/70 80	8 4 3	8 4 3
	575-3-60	2HE04501858 2HE04503658 2HE04505458	3.9	5.9	18.0 36.0 54.0	2 2 2	17.3 34.6 51.9	29.9 48.1 56.8	32.1 50.9 59.5	35/40 50/60 60	10 6 4	8 6 4

*. Dual element time delay type. (Note: Dual fuse size amps shown thus "70/80" indicates LO/HI blower HP respectively)

†. Based on 80ºC copper conductors (up to 100 AMPs max.) or 75º C copper conductors (100 Amps and over).

‡. Maximum HACR breaker of the same AMP size is applicable. Standard circuit breakers may be used in Canada and on applications over 80 amps where the heaters are separately fused.

**. These electric heaters do NOT include a fuse box. If a fuse box is required to meet a local code (e.g. Chicago), the following fuse block accessory is available for field installation.

	Nominal Voltage	Voltage	KW CAP. Multiplier
Electric Heat Correction Factors	208	208	1.00
	240	230	0.92
	480	460	0.92
	600	575	0.92

Fuse Block	2FB04700346	460 Volts

Unit Size D1CE/ DAHB	Power Supply	Heater Accessory Model Number	Supply Air Blower FLA MOTOR HP LO	Supply Air Blower FLA MOTOR HP HI	Electric Heaters KW	Electric Heaters Stages	Electric Heaters Total Amps	Total Unit Ampacity Amp Motor HP LO	Total Unit Ampacity Amp Motor HP HI	Max. Fuse Size * Amps	Minimum Wire Size† AWG Motor HP LO	Minimum Wire Size† AWG Motor HP HI
7-/2 TON UNIT with 1-1/2 or 2 HP Blower												
090	208-3-60	2HE04500925 2HE04501825 2HE04503625	5.7	7.5	6.8 13.5 27.0	1 2 2	18.7 37.5 75.1	62.5 86.0 132.9	64.3 87.8 134.7	70 90/100‡ 150	4 2 0	4 2 0
	230-3-60	2HE04500925 2HE04501825 2HE04503625	5.7	7.5	9.0 18.0 36.0	1 2 2	21.6 43.3 86.6	66.1 93.2 147.4	67.9 95.0 149.2	70 100 150	4 2 0	4 2 0
	460-3-60	2HE04500946** 2HE04501846**. 2HE04503646	2.6	3.4	9.0 18.0 36.0	1 2 2	10.8 21.6 43.3	32.4 45.9 72.9	33.2 46.7 73.7	35 50 80	8 6 3	8 6 3
	575-3-60	2HE04500958 2HE04501858 2HE04503658	2.1	2.7	9.0 18.0 36.0	1 2 2	8.7 17.3 34.6	27.0 37.8 59.4	27.6 38.4 60.0	30 40 60	10 8 4	10 8 4
10 TON UNIT with 2 or 3 HP BLOWER												
120	208-3-60	2HE04501825 2HH04503625 2HH04505425††	7.5	10.6	13.5 27.0 40.6	2 2 2	37.5 75.1 112.6	106.2 153.1 153.1	109.3 156.2 156.2	110 175 175	2 00 00	2 00 00
	230-3-60	2HE04501825 2HH04503625 2HH04505425††	7.5	10.6	18.0 36.0 54.0	2 2 2	43.3 86.6 129.9	113.5 167.6 171.7	116.5 170.7 175.6	125 175 175	2 00 00	1 00 000
	460-3-60	2HE04501846**. 2HE04503646 2HE04505446††	3.4	4.8	18.0 36.0 54.0	2 2 2	21.6 43.3 64.9	57.9 84.9 85.3	59.3 86.3 87.0	60 90 90	4 3 2	4 2 2
	575-3-60	2HE04501858 2HE04503658 2HE04505458††	2.7	3.9	18.0 36.0 54.0	2 2 2	17.3 34.6 51.9	47.4 69.0 69.0	48.6 70.2 70.2	50 70 70	6 4 4	6 3 3

*. Dual Element, time delay type.
†. Based on 80ºC copper conductors (up to 100 Amps. max.) or 75ºC copper conductors (100 Amps. and over).
‡. 90 = 1-1/2 HP, 100 = 2 HP
**. These electric heaters do NOT include a fuse box. If a fuse box is required to meet a local code (eg. Chicago), the following fuse box accessory is available for field installation.
††. Only 36 KW of electric heat can be simultaneously energized with mechanical heating. The full 54 KW operates in EMERGENCY HEAT mode only.

	Nominal Voltage	Voltage	KW CAP. Multiplier
Electric Heat Correction Factors	208	208	1.00
	240	230	0.92
	480	460	0.92
	600	575	0.92

Fuse Block	2FB04700346	460 Volts

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